GLUSHKOV, Viktor Grigor'yevich, inzh., gidrolog [1883-1939]; L'VOVICH, M.I.; GERASIMOV, I.P., akademik, red.; BLIZNYAK, Ye.V., red. [deceased]; DAVYDOV, M.I., KUNIN, V.N., otv. red.; POSLAVSKIY, V.V., red.; BIRINA, A.V., red. izd-va; POLYAKOVA, T.V., tekhn. red.

[Theoretical problems and methods of hydrological research] Voprosy teorii i metody gidrologicheskikh issledovanii. Moskva, Izd-vo Akad. nauk SSSR, 1961. 415 p. (MIRA 14:9)
(Hydrology--Research)

KUNIN, V.N.

Academy of Sciences of the Turkmen S.S.R. Izv. AN SSSR. Ser. geog. no.6:134-136 N-D '61. (MIRA 14:12)
(Turkmenistan--Geographical research)

KUNIN, V.N., doktor geograf.nauk

Reclamation of deserts in Turkmenistan. Priroda 50 no.9:61-68 S '61. (MIRA 14:8)

1. Institut geografii AN SSSR (Moskva). Chlen-korrespondent AN Turkmenskoy SSR.
(Turkmenistan--Reclamation of land)

KUNIN, V.N.

Local water in deserts and agricultural development. Izv. AN SSSR. Ser. geog. no.5:77-83 S-O '62. (MIRA 15:10)

1. Institut geografii AN SSSR.
(Sheep—Watering) (Water supply, Rural)

DAVITAYA, F. F., and KUNIN, V. N.!

"Soviet experience in developing arid zones"

report to be submitted for the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas - Geneva, Switzerland, 4-20 Feb 63.

KUNIN, V.N.

Interrepublic session on the development of desert territories in Central Asia and Kazakhstan. Izv. AN SSSR. Ser. geog. no.5:187-190 S-O '62. (MIRA 15:10)
(Soviet Central Asia—Pastures and meadows—Congresses)
(Kazakhstan—Pastures and meadows—Congresses)

NECHAYEVA, N.T., red.; BABAYEV, A.G., red.; RABOCHIY, I.S., red.; PETROV, M.P., akademik, red.; KUNIN, V.N., red.; SMIRNOV, L.N., kand. geol.-miner. nauk, red.; TAGANOV, K., kand. tekhn. nauk; SOKOLOVA, L.I., kand. sel'khoz. nauk, red.; ARTYKOVA, T.V., red.izd-va; IVONT'YEVA, G.A., tekhn. red.

[Materials presented at the Interrepublic Scientific Session on the Reclaiming of the Desert Areas of Central Asia and Kazakhstan] Materialy dolozhennye na Mezhrespublikanskoi nauchnoi sessii po osvoeniiu pustynnykh territorii Srednei Azii i Kazakhstana. Ashkhabad, Izd-vo AN TSSR. Book 1. [Natural conditions, animal husbandry, and feed supply of the desert] Prirodnye uslovi ., zhivotnovodstvo i kormovaia baza pustyn'. 1963. 485 p. Book 2. [Land and water resources of the desert and their utilization] Zemel'no-vodnye resursy pustyn' i ikh ispol'zovanie. 1963. 178 p. (MIRA 16:11)

(Continued on next card)

NECHAYEVA, N.T.—— (continued). Card 2.

1. Mezhrespublikanskaya nauchnaya sessiya po osvoyeniyu pustynnykh territoriy Sredney Azii i Kazakhstana. Ashkhabad. 1962. 2. Akademiya nauk Turkmenskoy SSR (for Petrov, Nechayeva). 3. Institut pustyn' AN Turkmenskoy SSR (for Petrov). 4. Chlen-korrespondent AN Turkmenskoy SSR (for Kunin).
(Kazakhstan--Reclamation of land--Congresses)
(Soviet Central Asia--Reclamation of land--Congresses)
(Deserts--Congresses)

KUNIN, V.N., doktor geogr. nauk, otv. red.; MOROZOV, A.T., doktor sel'khoz. nauk, red.[deceased]; SHESTAKOV, V.M., kand. tekhn. nauk, red.; SPRYGINA, L.I., red.izd-va; LAUT, V.G., tekhn. red.

[Lenses of fresh waters in the desert; methods of study, evaluation of resources, and exploitation] Linzy presnykh vod pustyni; metody issledovaniia, otsenki resursov i ekspluatatsii. Moskva, Izd-vo Akad. nauk SSSR, 1963. 379 p. (MIRA 16:6)

1. Akademiya nauk SSSR. Institut geografii. 2. Chlen-korrespondent AN Turkmenskoy SSR (for Kunin).
(Water, Underground)

KUNIN, V.N.

Hydrogeology of arid regions. Sov. geol. 6 no.11:80-88 N '63. (MIRA 17:1)

1. Institut geografii AN SSSR.

KUNIN, V.N.

New journal on land waters. Meteor. i gidrol. no.12:50 D '63. (MIRA 17:3)

DUNIN-BARKOVSKIY, L.V.; KUNIN, V.N.

Australian symposium on water resources., Izv. AN SSSR Ser. geog. no.4:146-152 '64 (MIRA 17:8)

KUNIN, V.N.

A Latin American conference on the study of arid regions. Izv. AN SSSR. Ser. geog. no.5:106-111 S-O '64.
(MIRA 17:11)

KUNIN, V.N., otv. red.

[Hydrogeology of arid zones] Gidrogeologiia aridnykh zon. Moskva, Nedra, 1964. 131 p. (Mezhdunarodnyi geologicheskii kongress: Doklady sovetskikh geologov, Problema 16) (MIRA 18:4)

1. Natsional'nyy komitet geologov Sovetskogo Soyuza. 2. Chlen-korrespondent AN Turkmenskoy SSR.

KUNIN, V.N.

Two days in the Atacama Desert. Priroda 54 no.9:85-96 S '65.
(MIRA 18:9)

1. Chlen-korrespondent AN Turkmenskoy SSR.

BYKHOVSKIY, D.G., kand.tekhn.nauk; KUNIN, V.S., inzh.

The role of hydrogen in cutting with a penetrating arc. Svar.proizv. no.12:31-32 D '64. (MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudovaniya.

ACCESSION NR: AP4029256 S/0125/64/000/004/0043/0046

AUTHOR: By*khovskiy, D. G. (Candidate of technical sciences); Kunin, V. S. (Engineer)

TITLE: Some quantitative relations in penetrating-arc cutting

SOURCE: Avtomaticheskaya svarka, no. 4, 1964, 43-46

TOPIC TAGS: metal cutting, metal arc cutting, metal gas electric cutting, metal penetrating arc cutting

ABSTRACT: Test equipment included the following units: a power source with external static characteristics set by saturable reactors; a modernized ADS-1000 tractor for advancing a T-12 arc head (sketch supplied) with a speed within 3-150 m/hr; a control unit. Copper and steel 35-mm thick and aluminum 40-mm thick were used in the gas-electric cutting experiments. Argon flow was 8 lit/min; hydrogen, 50-65 lit/min; air, 190 lit/min. It was found that: (1) The cutting

Card 1/2

ACCESSION NR: AP4029256

speed is directly proportional to the current; (2) The coefficient of utilization of the arc power is directly proportional to the current; (3) The arc voltage, at max cutting speed, is practically independent of the current and kind of metal; (4) The arc voltage, at a given current, is inversely proportional to the ratio of linear speed of the head to the maximum possible cutting speed; (5) The cut width is practically independent of the current and is determined by the head design. Orig. art. has: 6 figures.

ASSOCIATION: BNIIESO (All-Union Scientific Research Institute of Electric Welding Equipment)

SUBMITTED: 08Jul63 DATE ACQ: 27Apr64 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/2

PLATKOV, M.A.; ILLARIONOV, V.I.; KONONOV, V.A.; KUNIN, V.S.; EVENCHIK, S.D.

Separation of sulfur from selenium in packed and plate towers, and their efficiency. Zhur.prikl.khim. 35 no.12:2620-2624 D '62. (MIRA 16:5)

(Sulfur) (Packed towers) (Plate towers)

SAMYLOVSKIY , Ivan Vasil'yevich; KUNIN, V.V., red.; YAZLOVSKAYA, E.Sh., tekhn. red.

[Scientific and cultural relations of the Soviet Union with the countries of Asia and Africa] Nauchnye i kul'turnye sviazi SSSR so strnami Azii i Afriki. Moskva, Izd-vo vostochnoi lit-ry, 1963. 67 p. (MIRA 16:12)
(Russia--Relations (General) with underdeveloped areas)
(Underdeveloped areas--Relations (General) with Russia)

KUMIN, V. Ya.

Category : USSR/Electronics - Electron Tubes H-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4299

Author : Kumin, V.Ya., Ratsun, M.O.
Title : Determination of the Thermal Condition of the Control Grid of a Vacuum Tube from its Emission Current, Measured by the Pulse Method

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 3, 377-380

Abstract : No abstract

Card : 1/1

KUNIN, V. YA.

AUTHORS: Ratsun, M.O. and Kunin, V.Ya. 109-3-20/23

TITLE: Determination of the Pressure of Residual Gases in Electron Tubes (Opredeleniye davleniya ostatochnogo gaza v elektronnykh lampakh)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.3, pp. 435 - 437 (USSR).

ABSTRACT: The investigation was carried out by the method proposed by Herold (Refs. 1 and 2). Several types of Soviet-made tubes were measured. The first and the second grids or the anode of the tubes were used as the ion catchers, while the electrons were collected by either the anode or the second grid. It was found that in the tube type ГИ-30, pressures during the various stages of the manufacture and processing were in the range of 7.5×10^{-6} to 2.2×10^{-8} mmHg; for the tube type 6Ж1П, the pressures were in the range 1.2×10^{-4} to 2×10^{-6} mmHg. Tubes, type 6Б8С were measured more thoroughly; graphs of the residual gas pressure, as a function of the operating time of the tubes, are shown in Fig.2; Curve 3 represents the pressure in a normal tube, while Curves 1 and 2 relate to tubes having an increased pressure. Also, the mutual conductance S in mA/V and the anode current, as functions of the operating time,

Card1/2

Determination of the Pressure of Residual Gases in Electron Tubes

were investigated and the results are shown in Figs. 3 and 4. There are 4 figures and 5 references, 3 of which are English and 2 Russian.

SUBMITTED: April 1, 1957

AVAILABLE: Library of Congress

Card 2/2

KUNIN, V.Ya.; POLONSKIY, Yu.A.; TSIKIN, A.N.

Aging of rutile ceramics. Izv.vys.ucheb.zav.;fiz. no.2:85-89 '60.
(MIRA 13:8)

1. Leningradskiy politekhicheskiy institut im. M.I.Kalinina.
(Titanium oxide) (Semiconductors)

247700 1482, 1138, 1893 only

S/181/60/002/010/004/051
B019/B070

AUTHORS: Kunin, V. Ya. and Tsikin, A. N.

TITLE: Change in the Dielectrical Properties of Rutile Ceramics on Passage of Current and During Initial Heating

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2359-2365

TEXT: Some new results of studies of titanium containing ceramics are given, which allow a judgement of a number of assumptions made in the earlier publications. Tubes of 32 mm length, 6 mm diameter, and 1 mm wall thickness were used; they were made of a ceramic material consisting of up to 87% titanium dioxide (rutile), ZrO_2, Al_2O_3, SiO_2, and BaO with $\varepsilon = 80$. The results of the following experiments and their evaluations are discussed: time dependence of the conduction current, dependence of the lifetime of the samples on the intensity of the electric field and the temperature, change in the activation energy of the carriers on being subjected to an electric field and high temperature for a long time, conduction in direct current with periodically changing polarity and in

Card 1/2

Change in the Dielectrical Properties of Rutile Ceramics on Passage of Current and During Initial Heating

S/181/60/002/010/004/051
B019/B070

alternating current, and regeneration of the properties of aged titanium containing ceramics. The results are summarized as follows: 1) An aging of the ceramics results on passage of all types of current and on heating. 2) The aging of all titanium containing ceramics is brought about by the production of anionic vacancies in titanium dioxide. 3) Alternating current (50 cps) and periodic changes in polarity of direct current for periods shorter than the life of the specimen produced no aging under the same voltage and temperature conditions which resulted in aging with direct current. Further, it could be shown that the regeneration of the properties of rutile ceramics at high temperatures takes place not only in an oxidizing atmosphere but also in pure oxygen and in reducing media (hydrogen). V. G. Zakharov participated in the work. There are 6 figures and 7 references: 3 Soviet, 1 Czech, 2 German, and 1 US.

ASSOCIATION: Politekhnicheskiy institut im. M. I. Kalinina, Leningrad
(Polytechnical Institute imeni M. I. Kalinin, Leningrad)

SUBMITTED: March 17, 1960

Card 2/2

15.2640

S/196/61/000/010/007/037
E194/E155

AUTHORS: Koykov, S.N., Kunin, V.Ya., and Tsikin, A.N.

TITLE: Empirical relationships characterising changes in the electrical conductivity of rutile ceramics during ageing and regeneration

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1961, 19, abstract 10B 85. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, no.9, 1960, 114-118)

TEXT: Rutile ceramic is known to age in an electrical field at temperatures above 150 °C. Ageing causes increase in the specific conductivity of the ceramics with time. After removal of the electric field or change in the polarity of the applied voltage, regeneration of the rutile ceramic occurs: the resistivity increases first rapidly and later slowly. Formulae are proposed to describe change of conductivity with time, expressing the conductivity as the sum or product of exponential functions and a constant term. 4 literature references.
[Abstractor's note: Complete translation.]
Card 1/1

89292

S/181/61/003/001/031/042
B102/B204

9.2110 (1001, 1145, 1153, 1137)

AUTHORS: Kunin, V. Ya. and Tsikin, A. N.

TITLE: The characteristic peculiarities of the change in electrical conductivity of rutile ceramics during the process of electrical ageing and regeneration

PERIODICAL: Fizika tverdogo tela, v. 3, no. 1, 1961, 217-223

TEXT: Rutile ceramics, which are characterized by a high ε, are frequently used as dielectrics in capacitors. However, under the action of increased temperature and electric field, they show indications of ageing (deterioration of dielectric properties). Thus, it is possible to determine a lifetime (according to which a breakdown occurs at given U,I and t) for products in which rutile ceramics are used. Already in two previous papers the authors dealt with this subject as well as with investigations of the kinetics and mechanism of ageing processes. Among other things, it was found that rutile ceramics showed no indications of ageing in alternating fields or in constant fields undergoing periodic reversal of polarity. Thus, in the case of reversal of the field

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direction, regeneration (decrease of conductivity) is bound to occur. In addition, regeneration occurs only at elevated temperatures with or without a field of opposite direction, and with or without oxygen in the surrounding medium. For the purpose of studying the regeneration process, the change in electrical conductivity in the case of ageing and regeneration was systematically studied. The experiments described in the present paper were carried out with the same specimens as in earlier publications (Izv.VUZov, Fizika, no. 2, 1960 and Fiz.tverd.tela, II, no. 10, 1960). Fig. 1 shows typical forms of the time dependence of conductivity in regeneration at elevated temperatures without electric field. 3 specimens were subjected to the effect of 800 v at 180°C for 25 minutes. The conductivity during this time rose to $3 \cdot 10^{-8}$ a/v (curve 1); after the field had been switched off, it dropped jumplike, and again attained the initial value after some time (under the effect of 180°C). In the case of repeated ageing of the three specimens (800v) during 20, 155, and 2100 min (curves 3,4,5) the value of $3 \cdot 10^{-8}$ a/v was attained after 7, 12, and 18 min respectively. The change in time of the current in rutile ceramics was investigated during reversal of polarity. The

specimen was subjected to the first process of ageing at 800v during 100 min at 150°C, where the current rose to 8 μa (curve 1 in Fig.2), with following reversal of polarity. The current dropped sharply during some seconds and attained a low value in the opposite direction (curve 2 in Fig. 2). After one minute polarity was again reversed - the current attained 8μa within 10 minutes (instead of 100 minutes as in the case of the first ageing). During the following cycles, the time of regeneration was prolonged and, thus, also the time of the following ageing increased. Under these experimental conditions, regeneration was completed within 25 min (curve 6), which means that the initial state had been practically restored (curve 7). Curve 8 shows that during a reversal of polarity of longer duration, ageing also occurs. The time dependence of conductivity after the reduction of field strength during ageing is shown in Fig.3.

Three specimens were investigated (800v/mm, 150°C); within 22 hours they attained $7 \cdot 10^{-8}$ a/v (curve 1); next, the field on one specimen was entirely switched off, while on the other two it was reduced to 270 and 360 v/mm, respectively (curves 2,3,4). All experiments showed that the jumplike drop of conductivity is no regeneration, unlike the subsequent

slow process. Among the possible hypotheses concerning the mechanism of ageing of rutile ceramics, ionization- and electromechanical ageing are eliminated first of all. TiO_2 has a n-type conductivity which is due to the presence of lattice defects (anionic vacancies). Most of the other hypotheses concerning ageing assume that these processes are due to the increase of defect concentration in TiO_2. Such an increase may, however, be explained in different ways: a) forming of free anionic vacancies during heating; here, electrons are trapped, and F-centers are formed. A change in the color of rutile ceramics during ageing may, indeed, be observed. As, however, no ionic conductivity could be found, a) appears to be improbable. b) Penetration of H^+ ions into the ceramics as a result of dissociation of adsorbed water molecules. This assumption is in contradiction to experimental results carried out in hydrogen and oxygen. c) In the electric field, new defects are formed at elevated temperatures, which supply local levels in the forbidden band; in this case, regeneration may be explained only if TiO_2 paired defects exist. It may be assumed that, under the effect of field and thermal motion,

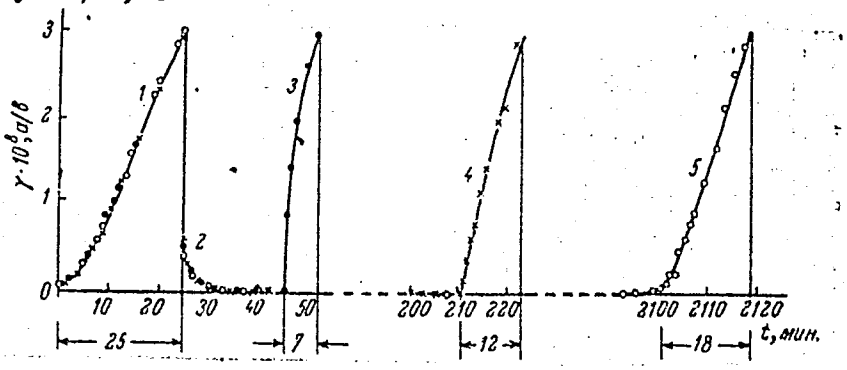
The characteristic peculiarities...

oxygen ions leave the TiO_2 lattice sites and remain between the sites near the anionic vacancies. This may well explain the observed phenomena.
There are 3 figures and 8 references: 4 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: July 11, 1960

Fig. 1



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S/181/61/003/001/033/042
B102/B204

The characteristic peculiarities...

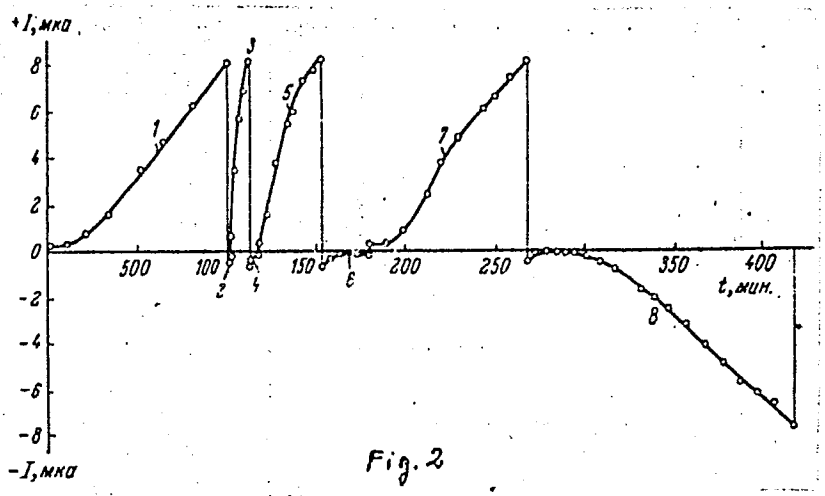

Fig. 2

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The characteristic peculiarities...

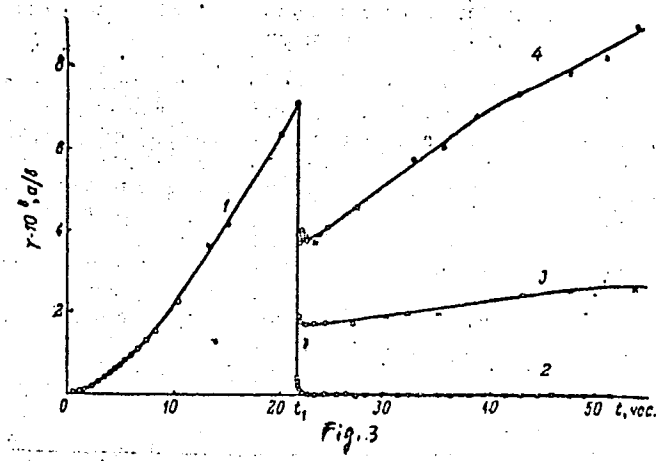

Fig. 3

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KOYKOV, S.N.; KUNIN, V. Ya.; TSIKIN, A.N.

Calculating changes in the concentration of defects in rutile ceramics during aging and regeneration. Fiz. tver. tela 3 no.2:651-657 F '61. (MIRA 14:6)

1. Leningradskiy politekhnicheskiy institut im. M. L. Kalinina
(Rutile)

3687

15.8312

S/181/62/004/004/020/042
B104/B108

AUTHORS: Kunin, V. Ya., Fomenko, L. N., and Tsikin, A. N.

TITLE: Changes in electrical conductivity and in the distribution of the electrical field potential in rutile ceramics during aging

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 972 - 976

TEXT: The electrical conductivity and the potential distribution across the sample were determined on samples with 87% TiO_2 annealed at 1380 -1400°C in air, at different aging and regeneration stages. Palladium electrodes were applied to the 30-15 mm surfaces of 6.3 mm thick samples. Ni wire probes were introduced into 1.5 - 2 mm wide cylindrical apertures on the flat sides of these samples. The measurements were made at constant temperatures of 200-250°C and at constant field strength of 140-430 v/mm. The electrical conductivity as a function of time exhibits four sections: (1) slight rise or drop; (2) a sharp rise; (3) slight rise; (4) rapid rise

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until the sample is destroyed. If, during the sharp rise of conductivity, the voltage applied to the sample is reduced, the relative potential distribution which is linear across the sample remains unchanged. The unusual relationship between electrical conductivity and potential distribution in the aging of rutile ceramics can be explained by changes in defect concentration. Other as yet unclarified processes take place in addition to concentration changes in the abovementioned third aging period. There are 4 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: November 30, 1961

S/181/62/004/004/040/042
B102/B104

AUTHORS: Koykov, S. N., Kunin, V. Ya., and Tsikin, A. N.

TITLE: Analysis of a hypothesis on electrical aging of rutile ceramics

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1067-1068

TEXT: Electrical aging and regeneration can be attributed to changes in the defect concentration of the TiO_2 lattice. A. F. Ioffe (Fizika kristallov, 1929) has proposed a mechanism of an increase in defect concentration which is analyzed. The defects are assumed to be displaced within the monocrystallites forming the ceramic or within the domains forming the crystal. The theoretical considerations are carried out for a laminar dielectric consisting of equal layers. It can be shown that the application of an electrical field causes an increase in defect concentration. A numerical estimate, however, yields a senseless result: under otherwise reasonable assumptions the defect concentration would increase by a factor of 10^{32}. If the change in defect concentrations

Card 1/2

were attributed to processes similar to those occurring in alkali-halide crystal coloration in an electrical field (Heiland, Zeitschr. f. Phys. 128, 144,1950) better results might be obtained.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: November 4, 1961 (initially), January 15, 1962 (after revision)

44167

15.2(50)

S/181/62/004/012/013/052
B104/B102

AUTHORS: Kunin, V. Ya., and Tsikin, A. N.

TITLE: Electric aging of rutile single crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3435-3440

TEXT: The existing hypotheses on electric aging of rutile single crystals are checked experimentally by studying the change in the electric properties of the crystals during aging and regeneration of the original properties. Discs of 0.5 mm thickness (5 mm diameter) were cut from spectroscopically pure rutile single crystals parallel and perpendicular to the optical axis. The specimens were transparent and of faintly yellow color. Silver electrodes were applied to their polished faces over areas of about 3.5 mm^2. Polycrystalline, spectroscopically pure, sintered specimens of TiO_2 and T-80 (T-80) capacitor ceramics (87% TiO_2) were investigated for comparison. Aging was studied in a thermostat at temperatures between 100 and 200°C and electric field strengths between 35 and 700 v/mm. Results: In an electric field parallel to the optical axis C, the electric conductivity of single crystals not aged electrically

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is higher by about four orders of magnitude than that measured in a field perpendicular to the optical axis. In both cases, whatever the direction of the electric field relative to the optical axis, the electric conductivity of the specimens investigated increased in four stages according to the period of time that the specimens stayed in the electric field. Only a slight increase can be found during the first stage, a steep one during the second stage, a slight one during the third stage and a steep one again during the fourth stage. Specimens in an electric field perpendicular to the optical axis age more slowly than those in an electric field parallel thereto. The original properties of the capacitor ceramics and of rutile single crystals aged up to the second, third or fourth stage can be completely regenerated without any electric field by heating in air to 700-800°C. Aging is slower at lower temperatures. Regeneration in electric fields opposed to the field during aging takes a similar course for rutile single crystals and capacitor ceramics. There are 5 figures.

Electric aging of rutile single ... S/181/62/004/012/013/052
B104/B102

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: July 5, 1962

Card 3/3

KOYKOV, S.N.; KUNIN, V.Ya.; TSIKIN, A.N.

Variations in the concentration of dissociated defects in the aging process of rutile ceramics. Izv.vys.ucheb.zav.;fiz.no.2:66-71 '63. (MIRA 16:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Rutile crystals--Defects)

KUNIN, V.Ya.; SEDUNOV, Yu.N.; TSIKIN, A.N.

Change of the type of conductivity of rutile ceramics and rutile single crystals in the process of electric aging. Fiz. tver. tela 5 no.10:2771-2774 O '63. (MIRA 16:11)

1. Leningradskiy politekhnicheskiy institut im. Kalinina.

L 23698-66 EWT(l)/EWT(m)/EWP(t) IJP(c) JD/JG

ACC NR: AR6005220 SOURCE CODE: UR/0058/65/000/009/E074/E074

AUTHOR: Kunin, V. Ya.; Semushkin, G. B.; Tsikin, A. N. 56 B

TITLE: Study of the processes occurring in KBr crystals under the influence of an electric field

SOURCE: Ref. zh. Fizika, Abs. 9E624

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov, M.-L., Energiya, 1964, 333-338

TOPIC TAGS: potassium bromide, electric field, color center, alkali halide, electric conductivity

TRANSLATION: Under the influence of an electric field at high temperatures, coloring (C) of alkali-halide crystals by F centers takes place. In this case one observes an increase in the electric conductivity of the crystal. Results are presented of a study of the kinetics of the C, and also of the changes of the electric properties of the crystals during C and discoloring. The experiments have been made in the temperature range 400--620C at electric field intensities 3--30 v/mm. At temperatures < 450C, there is either no C at all, or else it develops so slowly that it is impossible to relate an increase in the electric conductivity with it. The obtained data cannot be explained on the basis of the existing hypothesis on the mechanism of electrolytic C of alkali-halide crystals. A. Petr[illegible]ko.

SUB CODE: 20

Card 1/1

L 23810-66 EWT(l)/EWP(e)/EWT(m)/EWP(t) IJP(c) JD/WH
ACC NR AP6005201 SOURCE CODE: UR/0058/65/000/009/E074/E074

AUTHORS: Aumin, V. Ya.; Tsikin, A. N.

TITLE: Study of processes occuring in rutile ceramics and in single crystal rutile following prolonged action of an electric field

SOURCE: Ref. zh. Fizika, abs. 9E631

REF. SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 339-343

TOPIC TAGS: ceramic product property, titanium oxide, temperature dependence, electric field, ceramic product/ T-80 ceramic product

ABSTRACT: An investigation was made of the change in the electric properties and processes occurring in T-80 rutile ceramic and in spectrally pure rutile single crystals after prolonged action of an electric field and of increased temperature. The investigations were made in the temperature interval 80 - 500C at a field intensity 25 - 2500 v/mm. [Translation of abstract]

SUB CODE 20

Card 1/1

L 11128-66 EWT(l)/EWT(m)/EWP(e)/EWP(b) LJP(c) WH

ACC NR: AP6000881 SOURCE CODE: UR/0181/65/007/012/3666/3668

AUTHORS: Kunin, V. Ya.; Tsikin, A. N.; Shakirov, A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Change in the electric conductivity of ceramics with perovskite lattice when exposed to an electric field and a high temperature

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3666-3668

TOPIC TAGS: electric conductivity, semiconducting ceramic material, temperature dependence, electric field, chemical valence

ABSTRACT: The authors present the results of an investigation of the variation of current density with exposure time for the ceramics $CaTiO_3$, $CaZrO_3$, $CaSnO_3$, $SrTiO_3$, $BaTiO_3$, and $SrZrO_3$ with perovskite structure, and also the ceramics $SrTa_2O_6$ and $Sr_2Nb_2O_7$, which have a

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L 14128-66
ACC NR: AP6000881

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more complicated structure (still unknown). It was found that titanium ceramics page more intensely than all others, so that to reduce the time the ceramics which contain no titanium were investigated at higher values of the field and of the temperature. The results were similar to those previously obtained by the authors (FTT v. 2, 2359, 196) for rutile ceramics, but with a noticeable quantitative difference in the values of the current density before aging and during the various stages of aging. The differences are too large to be attributed to the effect of the various additives employed, and is most likely to be due to the fact that the titanium and zirconium ions used in the ceramics have variable valence. Orig. art. has: 2 figures

SUB CODE: 20/ SUBM DATE: 03Jun65/ ORIG REF: 001/

TS

Card 2/2

L 44596-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AR6010499 SOURCE CODE: UR /0196/65/000/010/B005/B006

30
29
B

AUTHOR: Kunin, V. Ya.; Semushkin, G. B.; Tsikin, A. N.

TITLE: A study of the processes occurring in KBr crystals under the effect of an electric field

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10B36

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 333-338

TOPIC TAGS: potassium bromide, color center, single crystal structure, crystal electric conductivity

ABSTRACT: Under the effect of an electric field at high temperatures and in a vacuum-tight contact between the cathode and the crystal, the coloring (C) of alkali-haloid crystals by F-centers occurs. In this case an increase in the electrical conductivity (EC) of the crystal is observed. The results of a study of the kinetics of the C process are given, and also the changes in the electrical properties of the crystals during C and decolorization. The experiments were conducted in the temperature region of 400—620C with electric field intensity of 3—30 w/mm. At temperatures of < 450C, C either does not occur at all or develops so weakly that it is impossible to associate a significant increase in EC with it. The time dependences

UDC: 621.315.61.011.2

Card 1/2

L 44596-66

ACC NR: AR6010499

of EC of KBr crystals and the intensity of C have four clearly defined sections: 1) in the initial period after the application of the electric field, the EC retains a constant value and C is lacking; 2) and increase in EC occurs, accompanied by intensive C from the cathode (at temperatures of < 450—500C); 3) after passage across the maximum, steady-state values of EC and intensities of C are established; 4) an increase in the EC of the crystal and the intensity of C again occurs, until thermal breakdown sets in. The transition to the third stage is accompanied by a discharge of a cloud of excess C from the region at the cathode and the establishment of a linear potential distribution along the thickness of the crystal. The changes occurring in C of the crystals at the second stage are reversible, both in heating in the lack of an electric field and in a field of inverse polarity. Changes in the potential difference between the electrodes, and also changes in the shape and position of the cloud of C occurring in the process of heating of colored crystals after the voltage is switched off indicates that C of the crystals is accompanied by the establishment of a complex distribution of volumetric charges in the crystal. The presence of analogous stages of the variation of EC in time, in the absence of C, indicates that the growth of EC of crystals of KBr, when kept in an electric field at an increased temperature, is not merely caused by electrolytic coloring. The experimental data obtained cannot be explained on the basis of the existing hypothesis concerning the mechanism of electrolytic coloring of alkali-haloid crystals. [Translation of abstract] 4 illustrations and bibliography of 13 titles. [Leningrad Polytechnical Institute im. M. I. Kalinin (Leningradskiy politekhnich. in-t)] A. Petrashko

SUB CODE: 20

Card 2/2

KUNIN, Ya.; SILKIN, A.

Repairing the front wheel hubs of the GAZ- M-20 autcmobile by compression. Avt. transp. 34 no.8:31 Ag '56. (MLRA 9:10)

(Automobiles--Wheels)

KUKLES, W.A.

"Determination of the Finite Region for the Beginning Deviation by Which the Motion Remains Asymptotically Stable for a System of Two Equations of First Order", PMM 16, 539-546 (1952).

AID P - 5040

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 11/22

Author : Kunin, Ye. A.

Title : Annular dynamometer of high sensetivity

Periodical : Stan. i instr., 4, 34-36, Ap 1956

Abstract : The author presents formulae for calculation and design of a ring-shaped dynamometer. Two tables, 2 mathematical formulae and 2 drawings.

Institution : Machine-tool Plant im. Sverdlov in Leningrad

Submitted : No date

KAMINSKAYA, V.V.; KUNIN, Ye.A.

Investigating and calculating the rigidity of universal boring machines. Stan.i instr. 31 no.2:1-10 F '60.
(MIRA 13:5)
(Drilling and boring machinery)

DANILOV, G.M.; KUNIN, Yu.I.; POPPE, E.I.; PIKIN, N.G.; PETROV, V.P.; LISTOV, Yu.A.

Discussing the article "Modulus or micromodulus?" Priborostroenie no.10:15-19 O '63. (MIRA 16:11)

KUNIN, Z.A.; KLIMENCHUK, A.V.

Attachment to rotary veneer cutters for butting cut veneer.
Bum. i der. prom. no.2:30-31 Ap-Je '56. (MLRA 10:6)

Kunina, A. Ye.

Das Fiasko der amerikanischen welt-herrschaftplane 1917-1920. Berlin, Dietz, 1953.

240 p.

Translation from the Russian: Proval Amerikanskikh planov zavoyevaniya mirovogo gospodstva v 1917-1920gg, (Moscow, 1951)

Bibliographical Footnotes.

KUNINA, L.A.

Purification of industrial sewage in Chelyabinsk Province. Okhr. prir. na Urale no.2:27-29 '61. (MIRA 17:7)

KLOCHKOV, A.I.; KUNINA, L.A.

Oligodynamic action of chemically pure metallic silver. Mikrobiologiia 29 no.3:428-432 My-Je '60. (MIRA 13:7)

1. Chelyabinskiy politekhnicheskiy institut.
(SILVER) (METALS AS ANTISEPTICS)

KUNINA, L.A.

Disinfection of drinking water by electrolysis. Nauch. trudy AKKH no.22:81-85 '63. (MIRA 18:5)

KUNINA, M.

Increase the effectiveness of the control of financial organs.
Fin. SSSR 19 no.3:44-46 Mr '58. (MIRA 11:5)

1.Nachal'nik sektora gosdikhodov Minskogo gorfinotdela.
(White Russia--Industries)

GIBRALTARSKAYA, V., inzh.; DOTSENKO, N., kand.tekhn.nauk; KUNINA, N., inzh.

MED-2 magnetoelectric flaw detector. Avt.transp. 39 no.6:26-28 Je '61. (MIRA 14:7)
(Magnetic testing)

S/128/60/000/004/001/006
A104/A133

AUTHORS: Kontorov, B. M., and Kunina, N. M.

TITLE: Boron and titanium alloyed wear-resistant white malleable cast irons

PERIODICAL: Liteynoye proizvodstvo, no. 4, 1960, 3-4

TEXT: The authors describe tests carried out with 60 x 20 x 10 mm specimens on a device developed at the VISKhOM. Over 100 experimental smeltings carried out in a 10 kg capacity high-frequency furnace and a 6 kg capacity testing arc furnace showed that boron and titanium alloyed white irons containing carbon and silicon are highly resistant to abrasive wear. The wear resistance was determined according to loss of weight on samples of St. 5 steel (Table 1). The effect of titanium on the resistance to wear is shown. Metallographic analyses of white iron alloyed with 0.5% boron showed structural changes of white iron, depending on the C + Si value, analogous to non-alloyed irons, although the critical C + Si values are higher. Non-pickled boron alloyed iron microsections showed fine $Fe_{23}(B, C)_6$ impurities. The carbide phase has a microhardness of 865 - 1,030 kg/mm^2; pearlite 287 - 405

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Boron and titanium alloyed...

kg/mm^2 and ferrite 334 - 360 kg/mm^2. The increased microhardness of ferrites is due to the presence of carbon and boron. Titanium alloyed iron consists of decomposition products of austenite, ledeburite, titanium carbide and acicular cementite inclusions, apparent at a 2.5% C content. Three white iron alloys were selected for casting of hard-wearing machine parts of power equipment (Table 2). OI-1 iron is the cheapest and most simple to produce but should be limited only to parts subjected to abrasive wear without impact stress. It can be improved by deoxidation with 0.13 - 0.15% ferrotitanium. OI-4 is suitable for parts subjected to intensive abrasive wear and impact stress, though founding should be done carefully to prevent separation of graphite. In the case of an exact adherence to analysis not being ensured the use of OI-3 white iron enriched by boron and titanium is recommended. Ferroboron and ferrotitanium are added to melted iron at 1,450°C about 15 - 20 minutes prior to its being teemed from the furnace; if smelting is done in a cupola furnace they are added together with the charge. When being teemed from the cupola the white iron should have a temperature of 1,400°C, while 1,350 - 1,380°C should be the mold pouring temperature. OI-3, OI-4 and particularly OI-1 irons are of satisfactory fluidity but have a high casting

boron and titanium alloyed...

shrinkage (1.5%) which should be taken into consideration. Machine parts made of OI-1 iron have been successfully used for 4 - 5 years by Lenenergo, Donbassenergo, Gorenergo and Belorusenergo Power Plants. In 1958 the Stalinskiy remontno-mekhanicheskiy zavod Donbassenergo (Stalino Mechanical Repair Plant of the Donbassenergo Power Plant) produced corrugated cylindrical armor plates for "Sh-16" ball mills. These were installed in a mill of the Slavyanskaya GRES simultaneously with G13L steel plates. Later inspection revealed that OI-3 and OI-4 iron plates after 8,079 operation hours had a 200% higher life, than high-manganese steel plates. Their mechanical strength is also sufficient and there was no breakage during transportation, installation and operation. There are 2 tables and 2 figures.

Таблица 2

1) Марка сплава	C	Si	Mn	S	P	B	Ti
ОИ-1	2,5–3,0	1,2–1,8	До 1,0	До 0,1	До 0,1	0,3–0,6	—
ОИ-3	2,5–3,0	0,7–1,5	0,5–1,0	" 0,1	" 0,1	0,3–0,5	0,7–0,9
ОИ-4	2,5–3,0	0,7–1,5	0,5–1,0	" 0,1	" 0,1	—	0,7–1,0

Table 2:

(1) alloy grade

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Boron and titanium alloyed...

Table 1:

(1) type of white iron;
(2) chemical composition;
(3) mechanical properties;
(4) coefficient of wear resistance;
(5) non-alloyed;
(6) titaneous, containing 2.2-2.4% C;
(7) titaneous, containing 2.5-2.8% C;
(8) titaneous, containing 3.1-3.4% C;
(9) boron-titaneous;
(10) boron.

1) Тип белого чугуна	2) Химический состав в %					3) Механические свойства					4) Коэффициент износостойкости в %
	C	Si	Mn	Ti	B	σ_b в кг/мм²	$\sigma_{изг}$ в кг/мм²	f в мм	a_k в кгм/см²	R_c	
5) Нелегированный	2,17 2,68 3,30	1,27 1,30 1,28	0,89 0,10 1,07	—	—	41,7 27,5 23,0	93,5 61,5 56,4	2,5 2,2 2,9	0,8 0,5 0,9	42 45 45	3,35 5,00 4,05
6) Титанистый, содержащий 2,2—2,4% C	2,25 2,37 2,20 2,21 2,40	1,31 1,40 1,13 1,53 1,16	0,95 0,99 1,01 0,95 1,14	0,32 0,63 0,91 1,69 2,10	— — — — —	45,2 44,4 34,8 30,0 31,1	76,9 78,0 71,7 73,5 72,8	2,6 2,6 — 2,3 —	1,0 1,0 0,6 0,9 0,6	44 44 45 44 45	6,20 11,51 9,57 9,44 10,8
7) Титанистый, содержащий 2,5—2,8% C	2,63 2,69 2,51 2,73	1,03 0,93 1,50 1,10	0,96 1,07 1,02 1,21	0,37 0,75 1,26 2,94	— — — —	28,4 22,4 36,2 27,9	60,0 75,6 69,1 61,2	— — 2,1 —	0,7 0,8 1,0 0,7	45 45 46 45	5,19 9,70 12,27 9,70
8) Титанистый, содержащий 3,1—3,4% C	3,13 3,34 3,24 3,34	1,60 1,40 1,40 1,72	0,78 1,10 0,98 0,93	0,28 0,73 1,54 2,50	— — — —	23,2 21,2 23,0 24,6	56,4 59,0 56,4 61,6	2,4 2,3 2,4 2,4	0,9 0,8 0,8 0,9	48 49 48 48	6,26 11,07 9,19 8,07
9) Боротитанистый	3,15 2,89 2,10 3,05 2,65	1,24 1,17 1,12 1,32 1,06	1,0 1,14 1,0 0,97 1,14	0,53 0,42 0,45 1,03 1,15	0,40 0,29 0,16 0,60 0,44	20,1 24,6 33,9 17,8 24,6	41,0 54,0 76,9 46,1 55,2	1,3 1,8 2,5 1,5 —	0,4 0,6 0,7 0,7 0,6	52 46 41 49 47	16,31 7,75 6,43 5,65 7,39
10) Борнистый	3,01 2,60	1,21 1,10	0,87 1,04	— —	0,28 0,49	34,0 28,3	56,5 63,6	1,7 —	0,6 0,8	49 51	— —

Card 4/4

KUNINA, O.V.; SHPIKITER, V.O. (Moskva)

Bacterial collagenase. Usp. sovr. biol. 50 no.3:294-309 N-D '60.
(MIRA 14:3)

(COLLAGENASE) (BACTERIA)

KUNINA, O.V., LEVYANT M.I., ORLKHOVICH V.N., FIRFAROVA K.F., KHOKHLOVA O.S., CHERNIKOV M.P., YEVTIKHINA Z.F. (USSR)

"Tissue Proteinases in Spleen, Kidneys, Liver, Brain, and Certain Forms of Transplanted Tumours."

Report presented at the 5th Int'l Biochemistry Congress, Moscow, 10-16 Aug. 1961

GAL'PERIN, Ye.R., redaktor; GODELEVICH, V.P.; YEVTYANOV, S.I., redaktor; KRISS, P.Zh.; KUNINA, S.L.; POPOV, I.A.; SHTEYN, B.B., redaktor; VOLKOVA, T.V., redaktor; VEYNTRAUB, L.B., tekhnicheskiy redaktor.

[Problems on radiobroadcasting installations] Zadachnik po radiopередaiushchim ustroistvam. Pod red. S.I.Evtianova i E.R.Gal'perina. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1951. 175 p. [Microfilm] (MLRA 7:12)

(Radio--Problems, exercises, etc.)

KUNIN, S. L.

"A Study of Quartz Oscillators With a Computation of Grid Current," pp 125-147, ill, 7 ref

Abst: Expressions for calculation of stationary operation of two circuits of self-oscillators, with due accounting for grid current, based on the method of symbolic quations developed by S. I. Yevtyanov, are derived. The derived expressions are true for any approximation of plate and grid current static characteristics and give satisfactory agreement between the calculated values and the experimental figures if the conditions for correct idealization of the tube static characteristics are fulfilled.

SOURCE: Trudy Moskovskogo Energeticheskogo In-ta im. V. M. Molotova (Works of the Moscow Energetics Institute imeni V. M. Molotov). No 21 -- Radio Engineering, Moscow-Leningred, Gosenergoizdat, 1956

Sum 1854

KUNINA, S.L.

Designing low frequency oscillators equipped with semiconductor junction triodes. Izv. vys. ucheb. zav.; radiotekh. no.3:337-347 My-Je '58. (MIRA 11:7)

1.Rekomendovana kafedroy radioperedayushchikh ustroystv Moskovskogo ordena Lenina energeticheskogo instituta.
(Oscillators, Transistor)

66320

~~9 (2, 3)~~ 9,3260 SOV/162-59-1-19/27

AUTHOR: Kunina, S.L.

TITLE: The Temperature Frequency Instability of Transistorized Self-Oscillators

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 162-175

ABSTRACT: The author investigated the principal factors causing frequency instability of low-frequency self-oscillators composed of junction transistors ($f < 0.02f_\alpha$), during temperature changes. For the frequency instability analysis, a y-parameter system was used for a common emitter circuit, resulting in simple expressions for the calculation of frequency instability components. It is shown that changes of the transconductance phase of the collector current are the principal causes for frequency instability of low-frequency self-oscillators. The transconductance phase, in turn, depends on changes of the temperature and temperature-caused changes of the constant component of the collector current. The expe-

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The Temperature Frequency Instability of Transistorized Self-Oscillators

rimental investigation showed that the instability calculation with the author's assumptions reflects correctly the processes in self-oscillators. The experiment investigation was performed with a Colpitts oscillator. A P6G transistor was used. The test results are shown in graph, Fig 2; the circuit arrangement of the experimental self-oscillator is shown in Fig 3. The basic investigations were conducted at 20 kc. For checking the experimental results, transistors of other types, P6V, P1Zh, were used. The temperature of the junction transistor was controlled by a thermostat, while the other circuit elements were not exposed to temperature changes. Based on the theoretical and experimental investigation, the author gives recommendations for increasing the temperature stability of the frequency. The constant component of the collector must be kept unchanged in the range of working temperatures of the self-oscillator. In this way the instability component

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The Temperature Frequency Instability of Transistorized Self-Oscillators

is eliminated, which caused by the influence on the transconductance phase, exerted by collector current changes due to temperature variations. The frequency instability, caused only by transconductance phase changes due to temperature variations, may be decreased by using a thermostat for controlling the transistor temperature. It should be taken into consideration that the frequency drift caused by junction transistor parameter changes due to temperature is smaller or commensurable with the drift caused by circuit instability due to temperature changes. For this reason, not only the junction transistor, but the entire oscillatory circuit should be controlled by a thermostat. The author expresses gratitude to I.A. Popov for his advice and R.A. Perelet for his participation in the experiments. There are 1 circuit diagram, 5 graphs and 9 references, 6 of which are Russian, 1 German and 2 English.

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66320
SOV/162-59-1-19/27

The Temperature Frequency Instability of Transistorized Self-Oscillators

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Transmitters of the Moscow Power Engineering Institute)

SUBMITTED: July 4, 1958

Card 4/4

KUNINA, S.L.

Frequency instability in transistor oscillators caused by variations in power supply voltages. Nauch. dokl. vys. shkoly; radiotekh. i elektron. no.2:197-209 '59. (MIRA 14:5)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.
(Transistors) (Oscillators, Electric)

Kunina, S.L.

82179

9.4310

S/106/60/000/07/03/005

AUTHOR: Kunina, S.L.

TITLE: The Frequency Instability of a Self-Oscillator With a "П403" (P403) Transistor

PERIODICAL: Elektrosvyaz', 1960, No. 7, pp. 29 - 37

TEXT: The frequency instability of a self-oscillator composed of one P403 drift junction transistor was investigated at a frequency of f = 1 Mc during changes of temperature and feed voltages. The investigations were performed under the same assumptions and considerations concerning circuit selection, calculation methods and experimental procedure, as those described by the author in previous papers (Refs. 1 and 2). The experiments were performed on a Coplitts oscillator operating at "underload conditions" (nedonapryazhennyy rezhim), shown in Fig. 1. To achieve a greater reliability of the experiments, two parallel investigations were performed with two P403 transistor specimens. Divergencies of the results were practically not observed. Two methods of base circuit feed were used: 1) from a separate source, 2) through a divider from the collector voltage source. The "load conditions" (napryazhennost' rezhima) were checked by the oscilloscope method according to the shape of collector current pulses. The

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The Frequency Instability of a Self-Oscillator With a "П403" (P403) Transistor

frequency drifts were measured at a Q-factor of 20. The effect of the transistor temperature on the frequency drift was investigated while the temperature of the other circuit components remained unchanged. The transistor temperatures were varied from +20 to + 50°C. The investigations showed that the methods of frequency instability calculation described by the author (Ref. 1) can also be used for oscillators composed of drift transistors. This is confirmed by the sufficiently close agreement of calculated and experimental data, shown in graphs (Figs. 4-8). The general regularities of calculated curves have been confirmed by experimental data. Some quantitative deviations can be explained by lacking precision of transistor parameter measurements and by the assumptions made. The differences between diffusion and drift transistors are discussed in respect of frequency stabilization. The calculation method given can be used for estimating the frequency drifts during changes of transistor temperature and feed voltages, if the dependencies of the following transistor parameters are known: input and output capacitances, input conductance (influenced by temperature, collector voltage and current) and the transconductance phase (faza krutizny) of the collector current (influenced by collector current and temperature). Investigations show that the collector current changes, re-

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S/106/60/000/07/03/005

The Frequency Instability of a Self-Oscillator With a "П403" (P403) Transistor

quired for the calculation, can be measured with a sufficient degree of approximation when the transistor works in an amplifier circuit with a short-circuited load and selected collector current and voltage values. The principal causes affecting the frequency stability during temperature and voltage changes are discussed. The effect of operating conditions and circuit parameters is indicated. The recommendations given for increasing the frequency stability during temperature and feed voltage changes permit a selection of oscillator operating conditions, the feedback coefficient, the method of feeding the base circuit. For example, the frequency instability caused by temperature changes can be reduced by selecting the proper value for the self-bias resistor in the emitter circuit. Highly stable sources must be used for feeding the base circuit, since the frequency instability caused by base circuit voltage changes is by one order higher than that depending on collector voltage changes. The author expresses her gratitude to Engineer A.F. Saratov for his participation in the experimental work. There are 7 diagrams, and 6 Soviet references.

SUBMITTED: December 30, 1959

Card 3/3

KUNINA, S. L., CAND TECH SCI, "FREQUENCY INSTABILITY OF NON-QUARTZ ~~CRYSTAL~~ AND QUARTZ ~~CRYSTAL~~ OSCILLATORS ~~OF~~ SEMI-CONDUCTOR TRIODES." MOSCOW, 1961. (MINISTRY OF COMMUNICATIONS USSR. MOSCOW ~~ELECTROTECH~~ INST OF COMMUNIC Electrical Engineering).

(KL, 2-61, 209).

KUNINA, S.L.

Crystal controlled transistor self-oscillator. Elektrosviaz' 15 no.4:49-59 Ap '61. (MIRA 14:9)
(Oscillators, Electric)

S/194/61/000/011/054/070
D271/D302

9,2580

AUTHOR: Kunina, S.L.

TITLE: Investigating a junction transistor oscillator in a range of temperatures

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 8, abstract 11 K56 (Tr. Mosk. energ. in-ta, 1961, no. 34, 58-75)

TEXT: The influence of temperature is investigated on the stationary operation of a transistor oscillator, at frequencies $f \leq 0.02\, f_\alpha$, where f_α is the frequency at which the current gain of the transistor in common base circuit falls by $\sqrt{2}$. A method is developed for design of oscillators which ensures maximum stability of the voltage on the tuned circuit, over a range of temperatures. Analytical relations and maximum amplitude stability conditions are given for three cases: 1) Stabilization by the emitter current; 2) stabilization by the base current; 3) combined stabilization. Tem-

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perature differential between transistor junctions and ambient medium is taken into account. When frequency stability requirements are more stringent and it is necessary to operate the oscillator below full drive, a rational choice of the stabilization circuit and its parameters can reduce the influence of temperature on the voltage amplitude on the tuned circuit. Recommendations regarding the choice of the stabilization system and its parameters are worked out. Detailed experimental checks have confirmed the results obtained. Transistor characteristics at various temperatures, oscillator circuits with various stabilization arrangements and the dependence of the oscillator output parameters on temperature are given. 6 references. [Abstracter's note: Complete translation]

Card 2/2

BOGACHEV, V.M.; KUNIN, S.L.; PETROV, V.Ye.; POPOV, I.A., kand. tekhn. nauk, dots.

[Design of transistorized transmitter stages; manual for a design course] Raschet kaskadov poluprovodnikovykh peredatchikov; posobie po kursovomu proektirovaniiu. Moskva, Mosk. energ. in-t, 1964. 170 p. (MIRA 18:1)

1. Moskovskiy elektrotekhnicheskiy institut svyazi (for Popov). 2. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo institut[illegible].

KUNINA, T.M., uchitel'nitsa

Connection between instruction and practical work of students in a printing house. Khim. v shkole 17 no.2:40-42 Mr-Ap '62. (MIRA 15:3)

1. Shkola rabochey molodezhi No.118, Moskva.
(Chemistry--Study and teaching)

IVANITSKAYA, M.A.; KHOMUTOVA, M.G.; KUNINA, Ye.I.

Importance of X-ray cinematography in the diagnosis of aortic defects. Grud. khir. 6 no.4:44-49 Jl-Ag '64. (MIRA 18:4)

1. Rentgenologicheskoye otdeleniye (zav. - doktor med.nauk M.A. Ivanitskaya) Instituta serdechno-sosudistoy khirurgii (dir. - prof. S.A.Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev) AMN SSSR, Moskva. Adres avtorov: Moskva, V-49, Leninskiy prospekt d.8, Institut serdechno-sosudistoy khirurgii.

KIRILLOV, Yu.D.; KUNINETS, M.G.

Extra-quick-hardening cement. TSement 29 no.5:15-16 S-O '63.
(MIRA 16:11)

1. Zdolbunovskiy tsementno-shifernyy kombinat, L'vovskiy sovet narodnogo khozyaystva.

1. KIRHIS [illegible].E., TAKSARS M.

2. USSR (600)

4. Solenoids

7. Maghetic field of a terminal solenoid, Latv. PSR Zin. Akad. Vestic no.9, 1951.

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TSITSBA, A.; DOLIDZE, M.; KUNINSKAYA, G., starshiy agronom-entomolog

Controlling the scale insect Leucaspis japonica Ckll. in the Adzhar S.S.R. Zashch.rast.ot vred.i bol. 4 no.6:46 N-D '59. (MIRA 15:11)

1. Predsedatel' kolkhoza imeni Belozerskogo rayona (for TSitsba).
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(Adzharistan--Scale insects--Extermination)

KUNINSKAYA, G.M.

Batum Quarantine Station. Zashch. rast. ot vred. i bol. 8 no.7:44 Jl '63. (MIRA 16:9)

1. Starshiy entomolog Adzharskoy karantinnoy laboratorii.

KUNIS, B.A.

Device for die-stamping paraffin rings. Obm.tekh.opyt. [MLP] no.36:36-37 '56. (MIRA 11:11)
(Textile industry--Equipment and supplies)

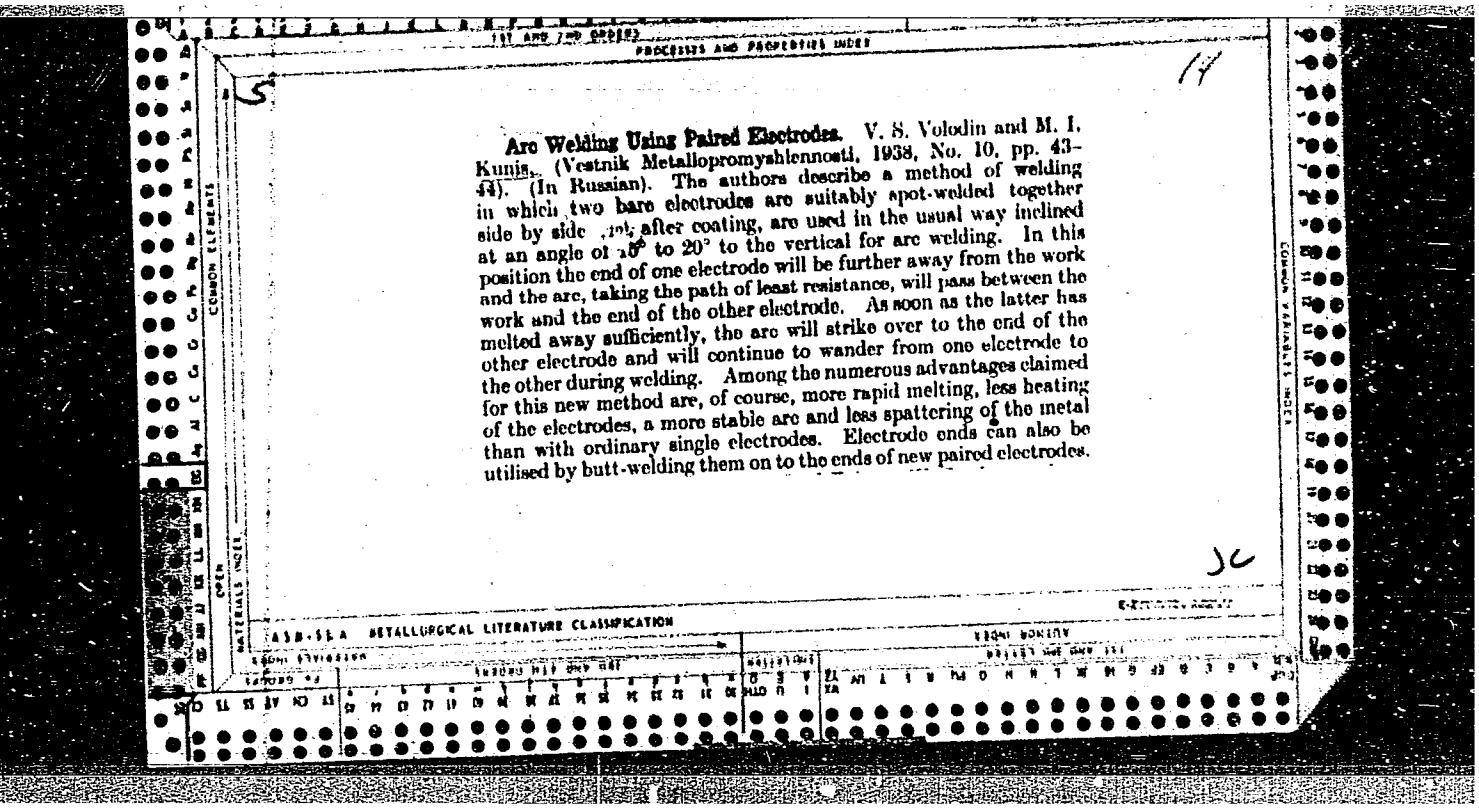
KUNIS, B.A.; MAKSIMENKO, I.M. [Maksymenko, I.M.]

Mechanism of the automatic addition of needles for mechanized flat rib knitting machines. Leh.prom. no.1:42-43 Ja-Mr '63.(MIRA 16:4)

1. Chernovitskaya trikotazhnaya fabrika No.2.

KUNIS, B.A.; MAKSIMENKO, I.M. [Maksymenko, I.M.]

Improved friction mechanism of overlock sewing machines. Leh. prom. no.3:57-58 Jl-S '64. (MIRA 17:10)



Arc Welding Using Paired Electrodes. V. S. Volodin and M. I. Kunis. (Vestnik Metallopromyshlennosti, 1938, No. 10, pp. 43–44). (In Russian). The authors describe a method of welding in which two bare electrodes are suitably spot-welded together side by side [illegible] after coating, are used in the usual way inclined at an angle of 10° to 20° to the vertical for arc welding. In this position the end of one electrode will be further away from the work and the arc, taking the path of least resistance, will pass between the work and the end of the other electrode. As soon as the latter has melted away sufficiently, the arc will strike over to the end of the other electrode and will continue to wander from one electrode to the other during welding. Among the numerous advantages claimed for this new method are, of course, more rapid melting, less heating of the electrodes, a more stable arc and less spattering of the metal than with ordinary single electrodes. Electrode ends can also be utilised by butt-welding them on to the ends of new paired electrodes.

KUNIS, M. I.

USSR/Engineering - Welding
Rivets, Electric

Nov 49

"Weilding With Electric Rivets Under a Layer of Flux Using a Stud Welding Gun Designed at the Institute of Electric Welding imeni Academican Ye. O. Paton, Academy of Sciences Ukrainian SSR," V. I. Kusnetsov, Engs, M. I. Kunis, 1 1/2 pp

"Avtogen Delo" No 11

An apparatus (first described in "Avtogen Delo", No 6 1947) designed for weld ing small studs was modified for electric rivet welding. Outlines modified construction in detail, and shows sample of work.

PA 153T61

KUZNETSOV, V. I.; BOROK, B. A.; GOFNER, A. N.; KUNIS, M. I.; PRYANISHNIKOV, S. S.
KUNIS, M. I.

"The highly effective electrodes for arc electric welding," Industrial Energetics, 1951.

KUNIS, M. I.

USSR/Engineering - Welding, Equipment Feb 51

"High-Power Laboratory Press for Coating Electrodes," V. I. Kuznetsov, M. I. Kunis, Engineers

"Avtogen Delo" No 2, pp 27, 28

Suggests device for coating electrodes by pressing. Press develops operating pressure up to 500 atm and consists of 3 basic parts: coating head, mech for feeding coating mixt, and feed mech for wire. Productive capacity is 8-12 electrodes per min.

185T25

SOV-135-58-11-15/21

AUTHORS: Kunis, M.I. and Korablev, A.I., Engineers

TITLE: A Friction Welding Machine on the Base of a Lathe (Ustanovka dlya svarki treniyem na baze tokarnogo stanka)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 11, pp 37-38 (USSR)

ABSTRACT: A machine designed by the authors and Engineers G.I. Gromov, A.I. Agarkov, Yu.A. Moiseyev, S.I. Bizin, and Technician Yu.N. Bondarev of VNIIESO is recommended for friction welding. Friction welding on this machine is performed by rotation of the two parts to be welded, for which purpose the tailstock is fitted with an independent drive. The machine and its operation are described in detail and the technical characteristics are given. It was tested for welding shafts and pipes up to 7,800 sq mm cross section. Specimens of weld joints are shown in Figure 3.
There are 3 photos, 1 diagram, 1 table and 4 Soviet references.

1. Metals—Welding 2. Metals—Friction 3. Lathes—Applications

Card 1/1

DUMOV, S.I.; KUNIS, M.I., inzh., retsenzent; SHEBEKO, L.P., inzh., retsenzent

[Equipment and technology of arc welding; laboratory work] Oborudovanie i tekhnologiia dugovoi svarki; laboratornye raboty. Moskva, Mashinostroenie, 1964. 161 p.
(MIRA 18:1)

IVANITSKIY, G.; KUNISKIY, A.

Mechanics of perception. Tekh.mol. 31 no.4:5-6 '63. (MIRA 16:6)

1. Sotrudniki Instituta biofiziki AN SSSR.
(Sight) (Perceptrons)